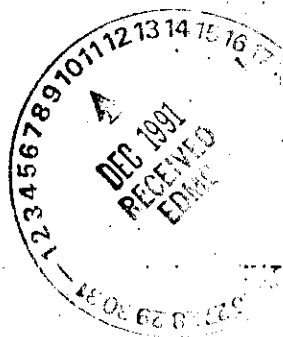


TEST REQUEST FORM

Sample/Specimen No. 0-121 Cost Code/Work Order No. ED 332Requested By: Org. 81232 Person J. Lindberg Date 3-12-90

Test Requested	No. of Samples	Test Lab Information (Instruction Used)
<u>Sieve Anal</u>	<u>1</u>	<u>ETAL-07</u>
<u>Hydro</u>	<u>1</u>	<u>ETAL-07</u>
<u>Sp6</u>	<u>1</u>	<u>ETAL-10</u>
<u>NA</u>	<u>NA</u>	<u>NA</u>

Remarks Field Sample
HRL-M-4Received By: HL Benny Date 3-9-90Approved By: HL Benny Date 3-9-90

9212100990

SIEVE ANALYSIS DATA SHEET

Sample ID 0-121

Page 1 of 1

Tested By R.G. ALEXANDER

Date 3-13-90

Procedure ETAL-07

Rev 1

Date Issued 11-15-89

EQUIPMENT ITEM

CALIBRATION NO.

DATE DUE

Balance

3304

3-25-90

Thermometer

0007

8-16-90

N/A

N/A

4/A

Sample Description SANDY GRAVEL

Sieve Time 10 (min)

reduced by

☒ splitting

☒ quartering

☐ stockpile

(B)

(A)

BEFORE TEST WT. N/A AFTER TEST WT. N/A $\frac{B-A}{B} \times 100 = \frac{N/A}{N/A} \% \text{ LOSS}$

Sieve ID Number	Sieve Size	Sample Weight	Cumulative Wt. Retained (g)	% Retained	Cumulative % Retained	Cumulative % Pass	% Pass
<u>N/A</u>	<u>2</u>	<u>5033.38</u>	<u>438.94</u>	<u>8.7</u>	<u>8.7</u>	<u>91.3</u>	<u>91.3</u>
	<u>1 1/2</u>		<u>790.03</u>	<u>15.7</u>	<u>15.7</u>	<u>84.3</u>	<u>84.3</u>
	<u>1</u>		<u>1503.53</u>	<u>29.9</u>	<u>29.9</u>	<u>70.1</u>	<u>70.1</u>
	<u>3/4</u>		<u>2119.37</u>	<u>42.1</u>	<u>42.1</u>	<u>57.9</u>	<u>57.9</u>
	<u>1/2</u>		<u>2483.33</u>	<u>53.3</u>	<u>53.3</u>	<u>46.7</u>	<u>46.7</u>
	<u>3/8</u>		<u>2980.14</u>	<u>59.2</u>	<u>59.2</u>	<u>40.8</u>	<u>40.8</u>
	<u>#4</u>		<u>3358.79</u>	<u>66.7</u>	<u>66.7</u>	<u>33.3</u>	<u>33.3</u>
	<u>#10</u>	<u>↓</u>	<u>3636.21</u>	<u>72.2</u>	<u>72.2</u>	<u>27.8</u>	<u>27.8</u>
	<u>#40</u>	<u>83.56</u>	<u>44.66</u>	<u>53.4</u>	<u>53.4</u>	<u>46.6</u>	<u>13.0</u>
	<u>#60</u>		<u>65.23</u>	<u>78.1</u>	<u>78.1</u>	<u>21.9</u>	<u>6.1</u>
	<u>#100</u>		<u>69.84</u>	<u>83.6</u>	<u>83.6</u>	<u>16.4</u>	<u>4.6</u>
	<u>#200</u>	<u>↓</u>	<u>72.55</u>	<u>86.8</u>	<u>86.8</u>	<u>13.2</u>	<u>3.7</u>

Finess Modules (FM) N/A (See ASTM C 136-03, Section B.2)

MATERIALS FINER THAN NO. 200 SIEVE BY WASHING

C=Percentage of Material Passing a 200 Sieve 13.2 %

D=Original Dry Weight of Sample

83.56g

E=Dry Weight of Sample After Washing/Sieve 72.55g

$C = \frac{D-E}{D} \times 100$

Remarks

SMALL FIELD
SAMPLE

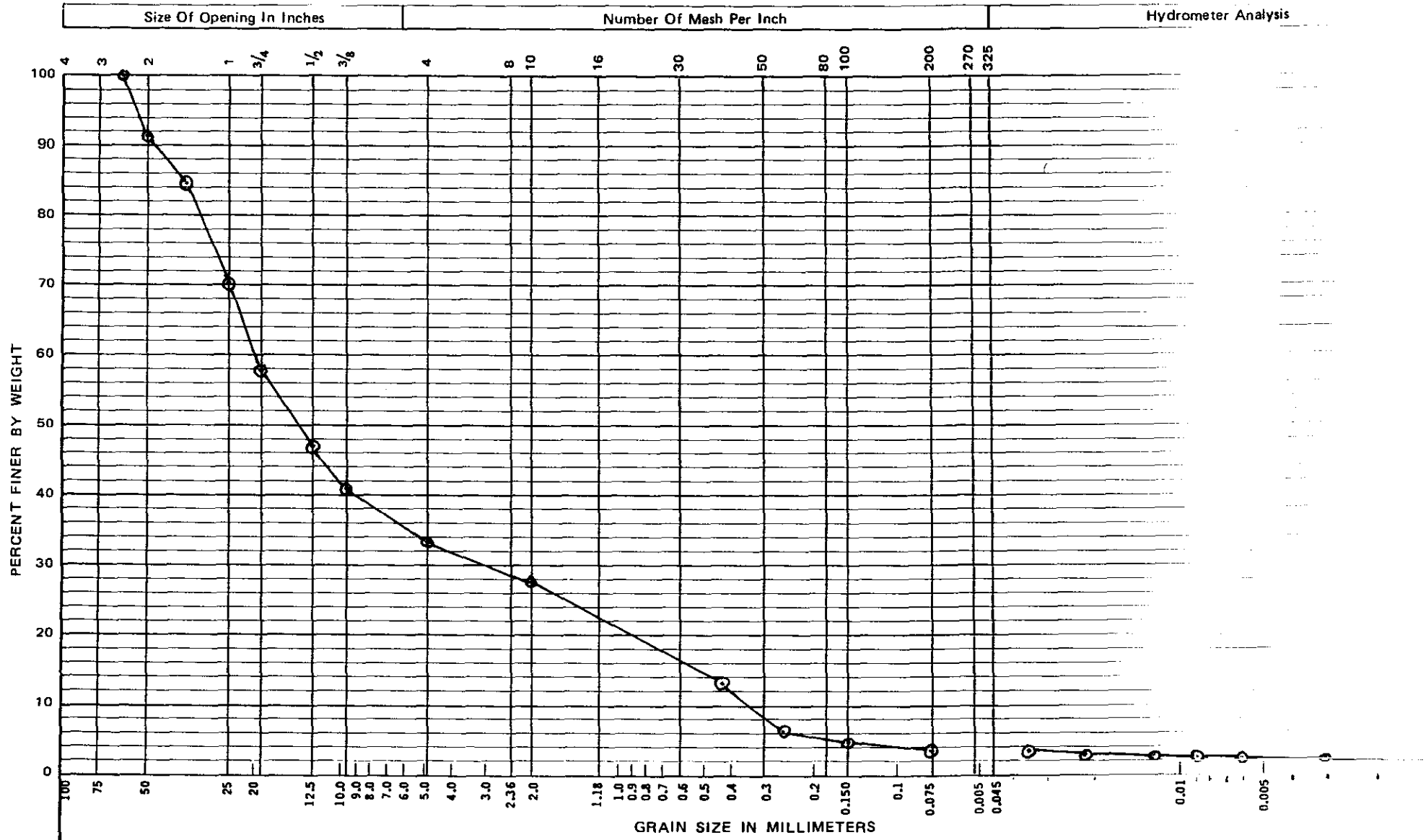
ALL DATA ARE ACCURATELY AND COMPLETELY RECORDED. THE TEST OPERATOR WAS TRAINED AND USED CALIBRATED INSTRUMENTS

Checked By HL Benny

Date 3-14-90

9 2 1 2 1 0 2 9 2

GRAIN SIZE ANALYSIS PLOT

Specimen No. 0-121Procedure No. ETAL-07Rev. 1Date Issued 11-15-89

Sample Description:

SANDY GRAVEL
HRL-M-4

Plotted by:

R-G ALEXANDER

Date:

3-14-90

Checked by:

HLBenny

Date:

3-14-90

THERMOMETER NO. 0007 CALIBRATION DUE DATE 8-16-90

DATE 3-13-90

921-12363

SPECIFIC GRAVITY OF SOILS DATA SHEET

 Specimen/Sample No. 0-121

 Page 1 of 1

 Test Operator R.G. ALEXANDER
3-13-90

EQUIPMENT ITEM	NO.	DATE DUE
Balance	<u>3304</u>	<u>3-25-90</u>
Oven Thermometer	<u>0007</u>	<u>8-16-90</u>
Thermometer	<u>0002</u>	<u>2-9-91</u>
Pycnometer	<u>2554</u>	<u>N/A</u>

 Wetting Agent 'Q' WATER

DETERMINATION NO.		1	2	3
	Drying Container No.	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
	Wt. Container + Oven Dry Soil, ± 0.01g	<u>N/A</u>	<u>---</u>	<u>---</u>
	Wt. Container, ± 0.01g	<u>N/A</u>	<u>---</u>	<u>---</u>
W_o	Wt. Oven Dry Soil, g	<u>40.20</u>	<u>---</u>	<u>---</u>
	Pycnometer No.	<u>2554</u>		
	Wt. Pycnometer, g	<u>135.72</u>	<u>---</u>	<u>---</u>
W_a	Wt. Pycnometer + Wetting Agent, g	<u>387.10</u>	<u>---</u>	<u>---</u>
W_b	Wt. Pycnometer + Wetting Agent + Soil, g	<u>412.54</u>	<u>---</u>	<u>---</u>
	Temperature, T_x at W_b , °C	<u>24.0 C.</u>		
G_w	Specific Gravity of Wetting Agent at T_x	<u>1.00</u>	<u>---</u>	<u>---</u>
G_t	Specific Gravity of Soil at T_x	<u>2.75</u>	<u>---</u>	<u>---</u>
G_s	Specific Gravity of Soil at 20°C	<u>2.74</u>	<u>---</u>	<u>---</u>

$$G_t = \frac{G_w \cdot V_w \cdot W_o}{W_o + (W_a - W_b)}$$

 V_w = Unit Weight Of Water (g/cc)

$$*G_s = K \cdot G_t$$

K values found in ASTM D854-58, Table 1

 *NOTE $G_s = G_t$ When Test Run at 20 °c

Average Specific Gravity At 20°C

2.74

ALL REQUIRED DATA ARE ACCURATELY AND COMPLETELY RECORDED. THE TEST OPERATOR WAS APPROPRIATELY TRAINED AND UTILIZED CALIBRATED TEST INSTRUMENTS AS INDICATED ABOVE. APPROVED TEST PROCEDURES WERE FOLLOWED TO PRODUCE THE ABOVE DATA.

 Checked By HC Benny

 Date 3-13-90

921210094

HYDROMETER ANALYSIS DATA SHEET

Sample ID 0-121

Page 1 of 1

Tested By HL Benny Date 3-12-90
 Procedure ETAL 07 Rev 1 Date Issued 11-15-89

EQUIPMENT ITEM	NO.	CALIBRATION DUE DATE
Hydrometer	<u>1000</u>	<u>2-16-91</u>
Balance	<u>3304</u>	<u>3-25-90</u>
Thermometer/Thermocouple	<u>0002</u>	<u>2-9-91</u>

Specific gravity of Sample 2.74

% Passing No. 10 Sieve 27.8 (%)

Hygroscopic Correction Factor Ø

WEIGHT OF SAMPLE

Wt. Container + Soil NA (g)

Wt. Container NA (g)

Wt. Soil 83.56 (g)

COMPOSITE CORRECTION

1st Reading 2 at 23.5 °C

2nd Reading NA at NA °C

HYGROSCOPIC MOISTURE CONTENT

Wt. Container + Air Dry Soil NA (g)

Wt. Container + Oven Dry Soil NA (g)

Wt. Container NA (g)

Water Content NA (%)

REMARKS

Tube C

* Considerable foam on top,
estimated reading (4")
W = 300.58

Pan 15

Date	Clock time	Elapsed time (min)	Hydrometer reading	Hydrometer with composite correction	Temp. (°C)	Soil in suspension (%)	Particle diameter (mm)
3-12-90	1044	2.0	212 *	10	24.0	3.3	0.038
	1047	5.0	11	9	23.9	2.9	0.022
	1057	15.0	11	^{HLB} 3-12-90 89	23.7	2.9	0.013
	1112	30.0	10	8	23.5	2.6	0.009
	1142	60.0	9	7	23.8	2.3	0.006
✓	1452	250.00	8	6	24.3	2.0	0.003
3-13-90	1042	1,440.0	7	5	23.2	1.6	0.001

Formulas and Tables used to calculate percent Soil in suspension, particle diameter and hygroscopic correction factor are found in ASTM D422.

ALL REQUIRED DATA ARE ACCURATELY AND COMPLETELY RECORDED. THE TEST OPERATOR WAS APPROPRIATELY TRAINED AND UTILIZED CALIBRATED TEST INSTRUMENTS AS INDICATED ABOVE. APPROVED TEST PROCEDURES WERE FOLLOWED TO PRODUCE THE ABOVE DATA.

Checked By R.G. Alexander

Date 3-14-90



Westinghouse
Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector JW Lindberg & Steve Clark

Date Sampled 3-9-90 Time 10:00 AM
12:00 hours

Company Contact JW Lindberg

Telephone (509) 376-5005

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
HRL-H-2	1 plastic bag set	soil	ASTM-D-422 Grain Size Analysis
HRL-D-4	"	"	"
HRL-C-1	"	"	"
HRL-M-4	"	"	"
HRL-R-7	"	"	"
HRL-T-6-AA-172	"	"	"
1100-3-E-5	"	"	"
1100-3-F-8	"	"	"
1100-3-H-5	"	"	"
1100-3-H-8	"	"	"
1100-2-D-3	"	"	"
1100-2-F-4	"	"	"
1100-2-H-1	"	"	"
1100-2-HH-1	"	"	"

Field Information** Run hydrometer on all samples listed hereon

Special Handling and/or Storage NA

PART II: LABORATORY SECTION

Received by _____ Title _____ Date _____

Analysis Required _____

*Indicate whether sample is soil, sludge, water, etc.

**Use back of page for additional information relative to sample location.

A-6000-406 (07/89)



Westinghouse
Hanford Company

CHAIN OF CUSTODY

Company Contact: J.W. Lindberg Telephone 6-5005

Sample Collected by: J.W. Lindberg & Steve Clark Date: March 9 Time: 10:00-10:30 AM

Sample Locations: Horn Rapids Landfill, sample #s refer to grid nodes

Ice Chest No.: NA Field Logbook & Page No.: WHC-U-306, p. 68

Remarks: Procedure EII-5.2 Soil Sampling was used, standard steel spade was used to collect soil at depth of 0 to 0.3 ft.

Bill of Lading No.: NA Off Site Property No.: NA

Method of Shipment: Hand carry

Shipped to: Jerry Alexander 2101-M Soil Testing Lab

Sample Identification

<u>HRL-H2-Surface Soil Sample</u>	<u>plastic bags, green duct tape label</u>
<u>HRL-D4-Surface Soil Sample</u>	<u>" " " " " "</u>
<u>HRL-G1-Surface Soil Sample</u>	<u>" " " " " "</u>
<u>HRL-M4-Surface Soil Sample</u>	<u>" " " " " "</u>
<u>HRL-R7-Surface Soil Sample</u>	<u>" " " " " "</u>
<u>HRL-T6-AH-172 Surface Soil sample</u>	<u>" " " " " "</u>

CHAIN OF POSSESSION

Relinquished by: J.W. Lindberg Received by: R.G. Alexander Date/Time: 3-9-90 / 1300

Relinquished by: _____ Received by: _____ Date/Time: _____

Relinquished by: _____ Received by: _____ Date/Time: _____

Relinquished by: _____ Received by: _____ Date/Time: _____

CONDITIONAL RADIATION RELEASE

Instructions: Sample # HRL-H-2
outside surfaces of
plastic bag → LDB, X/LD
Direct / smear

Date: 3-9-90 By: A.M.
 Radiation Monitoring

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: Sample # HRL-C-1
outside surfaces of plastic
bag → LDB, X/LD
Direct / smear

Date: 3-9-90 By: A.M.
 Radiation Monitoring

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: Sample # HRL-R-7
outside surfaces of
plastic bag → LDB, X/LD
Direct / smear

Date: 3-9-90 By: A.M.
 Radiation Monitoring

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: Sample # 1100-3-E-5
outside surfaces of
plastic bag → LDB, X/LD
Direct & smear

Date: 3-9-90 By: A.M.
 Radiation Monitoring

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: Sample # 1100-3-H-5
→ outside surfaces
of plastic → LDB, X/LD
covering Direct / smear

Date: 3-9-90 By: A.P. Mityel
 Radiation Monitoring

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: Sample # HRL-D-4
outside surfaces of
plastic bag → LDB, X/LD
Direct & smear

Date: 3-9-90 By: A.M.
 Radiation Monitoring

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: Sample # HRL-M-4
outside surfaces of plastic
bag → LDB, X/LD
smear & Direct

Date: 3-9-90 By: A.M.
 Radiation Monitoring

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: Sample # HRL-T-6-AH-12
outside surfaces of
plastic bag → LDB, X/LD
Direct & smear

Date: 3-9-90 By: A.M.
 Radiation Monitoring

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: Sample # 1100-3-F-8
→ outside surfaces of
plastic bag → LDB, X/LD
smear & Direct

Date: A.M. By: 3-9-90
 Radiation Monitoring

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: Sample # 1100-3-H-8
outside surfaces of plastic
bag → LDB, X/LD
Direct / smear

Date: 3-9-90 By: A.M.
 Radiation Monitoring

BL-6700-133 (10-77)